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**Efeito do fornecimento de informações para adotantes de gatos no
vínculo humano-animal e no bem-estar de gatos adotados de
abrigos**

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RESUMO

REBOUÇAS, T. O. C. **Efeito do fornecimento de informações para adotantes de gatos no vínculo humano-animal e no bem-estar de gatos adotados de abrigos.** [Effect of counseling cat's adopters on the human-animal bond and on the welfare of cats adopted from shelters]. 2016. 83 p. Dissertação (Mestrado em Ciências) – Faculdade de Medicina Veterinária e Zootecnia, Universidade de São Paulo, São Paulo, 2016.

O tutor é uma parte importante da vida do animal, já que ele determina todas as condições de vida do pet. A maioria dos tutores quer cuidar de seu cão ou gato com o melhor de suas habilidades, entretanto boas intenções não devem ser confundidas com bem-estar adequado na realidade. É importante que mais pesquisas sejam feitas para encontrar um método efetivo e barato para educar tutores. Nosso objetivo foi criar cinco folhetos e dois vídeos para informar adotantes sobre manejo, comportamento e as necessidades dos gatos. Nós os comparamos a outros tutores que receberam folhetos desenvolvidos pela Sacramento Society for the Prevention of Cruelty to Animals e a tutores não-informados em São Paulo, Brasil. No momento da adoção, foi avaliado o nível de informação dos tutores. Após seis meses, foram medidos o vínculo do tutor com o gato, o bem-estar do gato e o acatamento dos tutores informados às recomendações fornecidas. Em geral, as pessoas acertaram mais de metade da maioria das perguntas do escore de informação, porém algumas perguntas apresentaram um número alarmante de respostas erradas. O escore de informação estava associado aos tutores possuírem um gato no momento em que respondiam ao questionário. Não houve diferença no vínculo tutor-gato e nos escores de bem-estar e acatamento entre os tutores informados e não-informados. Algumas perguntas do questionário estavam associadas a estes escores e um pequeno número de perguntas foi associado entre si. O estudo deixou clara a necessidade de informar tutores brasileiros a respeito da guarda responsável, mas não define a adoção como o momento ideal para esta conscientização.

Palavras-chave: Adoção. Comportamento e bem-estar animal. Conscientização de tutores. Gato. Vínculo humano-animal.

ABSTRACT

REBOUÇAS, T. O. C. **Effect of counseling cat's adopters on the human-animal bond and on the welfare of cats adopted from shelters.** [Efeito do fornecimento de informações para adotantes de gatos no vínculo humano-animal e no bem-estar de gatos adotados de abrigos]. 2016. 83 p. Dissertação (Mestrado em Ciências) – Faculdade de Medicina Veterinária e Zootecnia, Universidade de São Paulo, São Paulo, 2016.

The owner is an important part in an animal's life, as he/she determines all the pet's living conditions. The majority of owners wants to look after their cats and dogs to the best of their abilities, but well-meaning intentions should not be confused with good welfare in reality. It is important to conduct more researches to find an effective and non-expensive method of educating owners. We aimed to create five pamphlets and two videos to inform adopters about cat's handling, behaviors and needs. We compared them to others owners that received pamphlets made by Sacramento Society for the Prevention of Cruelty to Animals and to non-informed owners in São Paulo, Brazil. At the adoption, we assessed the level of owner's information. After 6 months, we measured the owner's attachment to the cat, the cats' welfare and the compliance of informed owners with the advices given. In general, people got right more than half of each answer in the information score, although some questions had an alarming number of wrong answers. The information score was associated with owners already having a cat in the moment they were answering the questionnaire. There was no difference in the human-cat attachment, welfare or compliance scores among the informed e non-informed owners. A few questions in the questionnaire were associated with such scores and a small number of questions was associated with each other. The study emphasized the need to inform Brazilian owners about responsible ownership, but did not define the adoption as the ideal moment to counsel owners about this.

Keywords: Adoption. Animal behavior and welfare. Cat. Counseling owners. Human-animal bond.

1 INTRODUCTION

Although humans usually benefit from the relation with animals, the same is not always true to the animal (SHORE; DOUGLAS; RILEY, 2005). This can be changed in many owner-companion animal relationships, aiming to provide a better environment for the cat or the dog express their full necessities and to improve the human-animal bond, through some adjustments in the relationship.

The owner is an important part in the animal's life, as he/she determines all the pet's living conditions (HEIDENBERGER, 1997). Having an owner can ascertain that the cat or the dog has a good nutrition, a comfortable place to rest, its vaccines are updated and there are opportunities to play, besides the chance to be patted when the animal wants and to have individual human attention. These are some of the reasons that animals are much better when adopted by responsible owners, despite most shelter efforts to maintain the welfare of the animals under their responsibilities.

The adoption of the animal is all that a shelter wants, but it can have some cons. The process must be serious, and people should be made aware that it is not a random distribution of animals, but an established program that foresees attitudes the new owners have to assume so cats and dogs are not submitted to suffering or relinquishment (LAGES, 2009). The adopter should be oriented about the responsibility associated with his/her acquisition (ALVES et al., 2013).

If these attempts fail, the pet can be returned to the shelter or abandoned. The relinquished cat or dog can breed freely if not previously neutered and there are other problems associated with the animal's welfare, as a cat or a dog in the street can be hungry, thirsty, or exposed to abuse (ALVES et al., 2013). Even in a shelter, the pet will have its welfare compromised by the absence of its "owner" (DYBDALL; STRASSER; KATZ, 2007), showing stress related behaviors depending on handling (G. G. Lesnau, personal communication).

Some studies attempt to explain the reasons for relinquishment. Salman et al. (2000) found that 40% of the dogs and 28% of the cats were surrendered to shelters for behavioral reasons. Kidd, Kidd and George (1992) showed that more first-time adopters rejected the pet than present or previous pet owners, that rejecters were significantly younger than retainers and that a higher percentage of men than women

rejected pets. According to Neidhart and Boyd (2002), the causes for cats and dogs no longer to be with the adopter were: death of the pet, not get along with others people or animals, other reasons related to training and socialization, and time spent with the animal. The authors also say that some of these problems could be solved by providing more information before adoption.

There are more studies with dogs about behavior, relinquishment, adoption and the human-animal bond (ZASLOFF; KIDD, 1994). However, science is now starting to establish what cats need and want, from their own perspective (WENSLEY, 2008), although many cat owners still do not have access to this new knowledge, especially converted into words that they can understand and trust.

Many owners still thinks that a cat is a little dog, which results in the cat's needs not being met until it exhibits disturbing signs that attract the owner's attention. Consequently, the cat can have a number of behavioral problems, or the owner can see his/her cat as an unfriendly one. This will influence in the way the cat is treated and may end in relinquishment (SHORE; BURDSAL; DOUGLAS, 2008; ELLIS et al., 2013), as exemplified by Sherman and Serpell (2008) that urine marking can lead to cat relegation to the outside, re-homing, or euthanasia.

A common situation is when the owner sees normal cat behaviors as abnormal (JONGMAN, 2007), i.e., a behavior that is part of the normal cat repertoire, but occur in a place or context that is unacceptable to the owner (CASEY; BRADSHAW, 2008a). Owners who do not understand the motivational basis for the behavior, attributing "spiteful" intentions and punishing the animal (COMPANION ANIMAL WELFARE COUNCIL, 2009), often make the situation worse.

Reasons for the behavior can be explained to give the owner a different perspective on the problem, leading to a change in the owner's attitude (CASEY; BRADSHAW, 2008a). The lack of knowledge might contribute to unrealistic expectations and inappropriate actions in an attempt to solve a problematic behavior, and owner education could raise awareness about cat's needs and natural behavior (NEW et al., 2000).

The owner can also take attitudes that compromise cat's welfare, either because they do not know their needs or there is a lack of desire in satisfying those needs (MIRANDA, 2011; ALHO, 2012). It takes a committed owner to fulfill all the cat's environmental needs, which includes encouraging most of the cat's natural behaviors and behaviors that enrich the pet's life (ADAMELLI et al., 2005; JONGMAN, 2007).

Another factor that affect cat's welfare are unpredictable interactions, which can lead to anxiety and other issues related to stress (ELLIS, 2009). This happens with owners that think, or heard from unreliable sources, that certain situations can be corrected with punishment – the result is usually a cat that does not know what to expect from its owner. Understanding the unique environmental needs of the cat will help to reduce stress, unwanted behaviors, and can affect the owner-cat relationship (ELLIS et al., 2013). It will also have impacts in the human-cat bond, which may not have been developed or may have been only weakly developed (SHORE, 2005).

It is necessary to connect the positive sentiment that the human-animal bond creates and use it to motivate behaviors that has positive welfare outcomes to the cat (WENSLEY, 2008), as in the absence of the bond there is little motivation to adopt improvements to the animal's quality of life (HAMMERSCHMIDT, 2012). However, changing animal care practices by changing the attitudes and the behavior of owners is a major challenge (COMPANION ANIMAL WELFARE COUNCIL, 2009).

Reaching a point and actually changing attitudes and behaviors can be hard – myths and mistaken information can lead to people being averse to change their daily practices (IRVINE, 2002). To overcome these obstacles, veterinarians and others that wish to educate owners should give advices based on the existing expert knowledge and on the newest scientific findings, since understanding the origins of feline behavior is important in helping owners to recognize the cats' behavioral needs (MENGOLI et al., 2013). The ignorance of the animals' needs and false interpretations of behavior must be eliminated by careful explanation, not by criticism (TURNER, 1997).

There is little information on when these advices should be given to owners. New et al. (2000) state that the window of educational opportunity is narrow. Herron et al. (2007) say that effective advice could be delivered quickly in conversation and increased by written materials, and that the focus should be placed on information about pet health and in the human-animal bond success.

Under this regard, we aimed to create five pamphlets and two videos to inform adopters about cat's handling, behaviors and needs. Afterwards, we compared them to others owners that received pamphlets made by SSPCA (Sacramento Society for the Prevention of Cruelty to Animals), and to non-informed owners. At the adoption, we assessed the level of owner's information. After a time window of 6 months, we measured the owner's attachment to the cat, the cats' welfare and the compliance of informed owners with the advices given.

2 LITERATURE OVERVIEW

A recent official national research in Brazil showed that in 2013 there were 28.9 million of homes with dogs and 11.5 million homes with cats in the country, with nearly 52.2 million dogs and 22.1 million cats (IBGE, 2015). In 2012, a research in the United States showed that there were 83.3 million of owned dogs and 95.6 million of owned cats in the country, with 82.5 million pet-owning households (AMERICAN PET PRODUCTS ASSOCIATION, 2013). In the same year, another study showed that there were 6 to 8 million cats and dogs entering shelters per year in the US, with 3 to 4 million pets adopted from shelters and 2.7 million adoptable cats and dogs euthanized in shelters annually (NATIONAL COUNCIL ON PET POPULATION STUDY & POLICY, 2013).

There are not estimates about the total of stray or shelter animals in Brazil and no population control method has been proven to lower those numbers. Constantino et al. (2015) argues that four approaches would be useful to guarantee population management in Brazil: spay and neuter pet population, foment adoption of dogs and cats, fight animal relinquishment, and educate the population on responsible ownership.

2.1 SPAY AND NEUTER PET POPULATION

The increased number of unowned animals is a public health, socioeconomic, political and animal welfare problem (SALAMANCA; POLO; VARGAS, 2011). For example, cities that do not have effective programs to control overpopulation register three times more bite incidents than cities that already have implemented programs (GARCIA, 2005). The first attempt to manage the overpopulation in several countries dated around 1970s and intended to euthanize all unowned cats and dogs, also as a way to control rabies in pets (GARCIA; CALDERÓN; FERREIRA, 2012).

A few years later, the experience of several countries showed that the euthanasia of healthy animals was not going to solve the problem, as the number of

cats and dogs in the streets did not decrease (IRVINE, 2002). The free-roaming population is a result of owned animals allowed to roam, pets that have been lost or abandoned and reproduction within unowned animal populations (RAMÓN; SLATER; WARD, 2010); moreover, euthanized animals were easily compensated by increased survival in the remaining population (DALLA VILLA et al., 2010). Indeed, due to the difficulties to euthanize a large number of animals in a called “humane” manner, euthanasia has been considered an animal welfare issue (DALLA VILLA et al., 2010).

Although many countries still employ euthanasia as a population control method, in 1990 the World Health Organization (WHO) addressed that isolated activities of collection and disposal of dogs and cats were not effective for population control. Action should be taken in the causes of the problem: uncontrolled animal reproduction and lack of human responsibility as their guardians (WHO, 1990).

Under this regard, spay and neuter cats and dogs was one of the first measures trying to control the overpopulation. In the US, several strategies to neuter pets lowered the number of dogs presented each year to shelters in almost half between 1985 and 1994 (MARSTON; BENNETT, 2003). In Brazil, many cities have programs to free spay and neuter pets. São Paulo city also has a law preventing intact dogs and cats to be sold or donated (SÃO PAULO, 2008a), avoiding them to eventually become the source of free-roaming litters.

It is also important to educate owners about responsible ownership, guaranteeing that the neutered animal stays with that family for its whole life, not being replaced by an intact animal, which could reassume the issue (GARCIA, 2001). Likewise, understanding the owned population is required, which will provide a baseline for designing and implementing interventions to control overpopulation (SLATER et al., 2008).

Though the public authorities encourage owners to spay and neuter their animals, many still believe that animal overpopulation does not have anything to do with owned cats and dogs (GARCIA, 2001) or have misconceptions about neutering their cats and dogs, especially the males (BRAGA; FERREIRA, 2013). In addition, the measures taken to control the overpopulation in Brazil are still ineffective, once the growth of the population is higher than the control rates (LIMA; LUNA, 2012), and we still need to search for definitive measures to further decrease and solve the problem.

2.2 FOMENT ADOPTION OF DOGS AND CATS

Since euthanasia of healthy animals has been proved an ineffective method to control overpopulation, the only way shelters have to lower the number of animals is to foment adoptions. A good methodology to promote adoptions should be cheap, feasible, efficient and would provide animal well-being (LESNAU, 2014).

Yet, an adoption can potentially lead to relinquishment or the return of the animal to the shelter, and has to be well thought (MARSTON; BENNETT, 2003). The owners should be questioned about their attitudes and expectations; and if attitudes are neutral and expectations unrealistic, they should receive training in responsible ownership (KIDD; KIDD; GEORGE, 1992).

Even in research facilities, where occasionally the animals are put for adoption at the end of an study, little is known about the adoption processes (DIGANGI; CRAWFORD; LEVY, 2006). Digangi, Crawford and Levy (2006) defined as successful the adoption in which cats remain in the original homes roughly 3 years after adoption. Mertens and Coppola (2012) evaluated placement success based on retention, level of satisfaction with the dog and owner compliance with recommendations made at the adoption.

Other things can affect the adoption process and may have to do with the animal, as behavioral and emotional traits or physical characteristics, or with the environment where the pet is (GOURKOW; FRASER, 2006). Also, shelters can use pre-adoption counseling to help adopters make an appropriate selection (MARSTON; BENNETT, 2003).

The ultimate goal of shelters is to get their animals adopted by lovely homes with families who are committed to the success of their pets (WEISS; GRAMANN, 2009). In this process, adopters should be educated that the relationship with the animal will take time to stabilize and can always be improved (SHORE, 2005), encouraging them to learn more about the animal that they just adopted and continuously searching for ways to be a better owners.

2.3 FIGHT ANIMAL RELINQUISHMENT

According to UNESCO's Universal Declaration of Animal Rights (1978), the abandonment of an animal is a cruel and degrading act and the animal rights must be recognized by law (ALVES et al., 2013). In São Paulo state, a law says "The relinquishment, by the suffering inflicted to the animal, configures, in theory, an environmental crime" (SÃO PAULO, 2008b).

Yet, it is a crime difficult to punish and even harder to investigate, having few studies in Latin America (ALVES et al., 2013). Garcia (2005) reports that 70% of stray animals already had had a house, providing feedback to the overpopulation problem.

Some researchers try to ascertain the risk factors for relinquishment to happen. New et al. (2000) list as risk factors if the animal had problems with house soiling, had damaged things, or was overly active. Marston and Bennett (2003) identified the lack of veterinary care as strongly related to relinquishment.

A research in Taiwan found that no single set of risk factors substantially accounted for the unsuccessful dog ownership (WENG et al., 2006b). According to Salman et al. (1998), protective factors against relinquishment of a cat could be reading a book or other educational material about feline behavior, providing the animal veterinary care, or obtaining the cat as a stray.

As for the pets characteristics, more intact, mixed breed and young animals (less than 3 years) were abandoned, as well as animals that were with the new owner for less than a year for dogs and less than 2 years for cats (NEW et al., 2000). Changes in the owner's life, as divorce, moving domiciles or financial changes, also contributes to relinquishment (KENDALL; LEY, 2006). The absence of behavioral problems strengthens the relationship with the owner (ADAMELLI et al., 2005). The friendliness of the cat can also strengthen the human-cat bond and increase the retention of the pet (CASEY; BRADSHAW, 2008b).

The environment that the owner provides should offer good opportunities for interaction between the owner and the cat, since the human-animal bond is influenced by positive interactions (JONGMAN, 2007). Constant contact and daily caretaking can increase the companionship between individuals and their pets (GELLER, 2005).

The human-animal bond is also important in the decision of maintaining a pet (KIDD; KIDD; GEORGE, 1992; SHERMAN; SERPELL, 2008). Recognition of

problematic behaviors is critical in recently adopted pets since the human-animal bond has had little time to develop and the owner may not be committed to the pet yet (HERRON; LORD; HUSSEINI, 2014). The bond might protect some animals from abandonment or harm and there is a positive relation between level of attachment to a pet and whether the animal went with the family during the transfer of a military man or the likelihood that pets were evacuated during a flood (DOUGLAS, 2005).

The failure of the bond between the human and their pet is mainly due to the lack of knowledge about the animal (GARCIA, 2005). A solution to the problem would be to inform owners about the animal's behavior and needs (TURNER, 1997; ROCHLITZ, 1999; MARSTON; BENNETT, 2003; HUNTHAUSEN; LANDSBERG; ACKERMAN, 2005; GENARO, 2013), as educated owners may be less likely to resort to abandonment (RAMÓN; SLATER; WARD, 2010) and as all variables related to relinquishment are modifiable (PATRONEK et al., 1996).

Sherman and Serpell (2008) advise that one of the most effective methods by which veterinarians can influence the number of animals surrendered to shelters is to provide behavioral counseling to their clients. Genaro (2013) says veterinarians should minimize the chances of a conflict between the owner and the pet by making the owner aware of the animal's behavioral traits and discussing what they expect from it. However, cats relinquished or presented to behaviorists are likely to be the "tip of the iceberg" in terms of the general population showing behaviors that are considered to be "problematic" by owners (CASEY; BRADSHAW, 2008a).

An approach to fight animal relinquishment would be to do an epidemiological surveillance of the problem, defining its distribution, identifying all risk groups and indicating measures to its prevention (GARCIA; CALDERÓN; FERREIRA, 2012). As long as on-going studies about these factors are not concluded, it will not be possible to find a definitive solution to the problem.

2.4 EDUCATE THE POPULATION ON RESPONSIBLE OWNERSHIP

Responsible ownership is an ethical duty the owner has towards the animal, ensuring the provision of its physical, psychological and behavioral needs, with the responsibility of preventing hazards that his/her animal can cause to the community or

to the environment (HAMMERSCHMIDT, 2012). The education and consciousness about responsible ownership are cornerstones in an population control program (GARCIA, 2005).

It includes the promotion of their physical and mental welfare; the provision of basic care as shelter, adequate food, hygiene, affection, exercise, vaccinations, deworming and veterinary treatment; as well as restricted mobility (LAGES, 2009). It also encourages people to reflect whether or not it is the right time to adopt a new cat or dog (LAGES, 2009). It can be easy to apply and to measure – for example, cities that microchipped their animals lowered in 60% the number of euthanized animals (GARCIA, 2005).

Responsible ownership is also important to assure that the animal shows a high level of welfare, although most owners normally think that is enough to satisfy only the basic needs (SHORE; DOUGLAS; RILEY, 2005; HAMMERSCHMIDT, 2012). It will also prevent environmental contamination by the well-assisted cats and dogs (GARCIA, 2005; LAGES, 2009), contributing to the concept of “One Health”.

Human education is relevant not only to engender more respect for animals but also to reduce the incidence of animal abuse due to ignorance (PODBERSCEK, 1997¹ apud ADAMELLI et al., 2005, p. 91). People’s understandings of what pets are, affects how people treat and relate to them (BLOUIN, 2012).

However, little has been researched in how or when to educate owner population. Irvine (2003) says that interactions between shelter workers and adopters provides a window of educational opportunity, that may open briefly. Another research pointed out that people caught more information from a health professional than from written material (WENG et al., 2006a), showing the importance of the veterinarian as a spreader of concepts regarding responsible ownership.

Herron et al. (2007) researched if 5 minutes of owners’ pre-adoption counseling would increase the success of house-training among dogs in their new homes, finding that counseling is a useful owner-education tool in shelters. Gazzano et al. (2008) showed that dogs, whose owners were given advice by a veterinary behaviorist, behaved differently in many respects, exhibiting less inappropriate elimination and aggression toward unknown people or dogs, even when the advice

¹ Podberscek, A.L., 1997. Illuminating issues of companion animal welfare through research into human–animal interactions. *Anim. Welf.* 6, 365–372.

was given to owners of dogs older than 4 months, i.e., outside the sensitive period, or to owners who had another animal before.

Hammerschmidt (2012) found that lack of care with the dogs' health was explained by the lack of financial resources or by the ignorance of its importance. After an educational project with children in elementary school, Guedes (2011) indicated that the children's parents showed an increase in the belief that it was important to neuter pets and that the animals could carry diseases to humans, revealing that there are many ways to propagate the concepts of responsible ownership.

If we want to continue to enjoy the relationships with pets and benefitting with them, we must stimulate responsible ownership in every opportunity. Additionally, as our knowledge about the human-animal bond increases, adequate measures will be established to eradicate many problems derived from overpopulation (SALAMANCA; POLO; VARGAS, 2011).

To accomplish that, we should begin to look to the animal in an integrate view, that is made by its physical health but also by many others aspects for years overlooked. We need to view the overpopulation control as connected to the animals, to the humans, whether they are owners or not, and to the environment, applying the "One Health" concepts to live in a better world.

3 CONCLUSION

As the study was conducted with a small population, the results cannot be generalized to the entire Brazilian population, but we did gather preliminary knowledge about cat ownership in Brazil.

There is a necessity to inform Brazilian owners about responsible ownership and about animals' handling, behaviors and needs, subjects that requires to be approached by veterinarians, public authorities and non-governmental organizations in order to allow owners to build a stronger and more satisfying bond with their animals and improve cats and dogs' welfare. Informing owners about these subjects might also help to better address the overpopulation problem.

Inform owners with pamphlets or with pamphlets and videos at the adoption of a new cat might not build a stronger attachment between the owner and the cat and might not increase the cat's welfare level, but may influence others variables in the owner-cat relationship.

REFERENCES

ADAMELLI, S.; MARINELLI, L.; NORMANDO, S.; BONO, G. Owner and cat features influence the quality of life of the cat. **Applied Animal Behaviour Science**, v. 94, n. 1-2, p. 89–98, 2005.

ALHO, A. M. P. V. D. A. **O enriquecimento ambiental como estratégia de tratamento e prevenção da cistite idiopática felina**. 2012. Dissertação (Mestrado Integrado em Medicina Veterinária) - Faculdade de Medicina Veterinária, Universidade Técnica de Lisboa, Lisboa, 2012.

ALVES, A. J. S.; GUILOUX, A. G. A.; ZETUN, C. B.; POLO, G.; BRAGA, G. B.; PANACHÃO, L. I.; SANTOS, O.; DIAS, R. A. Abandono de cães na América Latina: revisão de literatura. **Revista de Educação Continuada em Medicina Veterinária e Zootecnia do CRMV-SP**, v. 11, n. 2, p. 34–41, 2013.

AMERICAN PET PRODUCTS ASSOCIATION, T. **2013-2014 National Pet Owners Survey**, 2013. Disponível em: <<http://media.americanpetproducts.org/press.php?include=144262>>. Acesso em: 8 ago. 2015.

BLOUIN, D. D. Understanding Relations between People and their Pets. **Sociology Compass**, v. 6, n. 11, p. 856–869, 2012.

BRAGA, R. S.; FERREIRA, G. M. Esterilização cirúrgica de cães e gatos no município de Anápolis, Goiás, no período de 2010 a 2012. **Revista CFMV-Brasília/DF**, v. 19, n. 58, p. 52–57, 2013.

BROOM, D. M. Animal welfare: concepts and measurement. **Journal of Animal Science**, v. 69, n. 10, p. 4167–4175, 1991.

CASEY, R. A.; BRADSHAW, J. W. S. Owner compliance and clinical outcome measures for domestic cats undergoing clinical behavior therapy. **Journal of Veterinary Behavior: Clinical Applications and Research**, v. 3, n. 3, p. 114–124, 2008a.

CASEY, R. A.; BRADSHAW, J. W. S. The effects of additional socialisation for kittens in a rescue centre on their behaviour and suitability as a pet. **Applied Animal Behaviour Science**, v. 114, n. 1-2, p. 196–205, 2008b.

CASEY, R. A.; VANDENBUSSCHE, S.; BRADSHAW, J. W. S.; ROBERTS, M. A. Reasons for relinquishment and return of domestic cats (*felis silvestris catus*) to rescue shelters in the UK. **Anthrozoos**, v. 22, n. 4, p. 347–358, 2009.

COLEMAN, G. J. Educating the public: information or persuasion? **Journal of Veterinary Medical Education**, v. 37, n. 1, p. 74–82, 2010.

COMPANION ANIMAL WELFARE COUNCIL. **Companion Animal Welfare Assessment**, 2009. Disponível em: <<http://www.cawc.org.uk/reports>>.

CONSTANTINO, C.; BAUDISCH, A. H.; GRAVINATTI, M. L.; BIONDO, A. W. Perfil dos adotantes dos cães inseridos no projeto de extensão “Adote os cães da UFPR”. **Revista de Educação Continuada em Medicina Veterinária e Zootecnia do CRMV-SP**, v. 13, n. 2, p. 83–83, 2015.

DA GRAÇA PEREIRA, G.; FRAGOSO, S.; MORAIS, D.; VILLA DE BRITO, M. T.; DE SOUSA, L. Comparison of interpretation of cat’s behavioral needs between veterinarians, veterinary nurses and cat owners. **Journal of Veterinary Behavior: Clinical Applications and Research**, v. 9, n. 6, p. 324–328, 2014.

DALLA VILLA, P.; KAHN, S.; STUARDO, L.; IANNETTI, L.; DI NARDO, A.; SERPELL, J. a. Free-roaming dog control among OIE-member countries. **Preventive Veterinary Medicine**, v. 97, n. 1, p. 58–63, 2010.

DIGANGI, B. A.; CRAWFORD, P. C.; LEVY, J. K. Outcome of Cats Adopted From a Biomedical Research Program. **Journal of Applied Animal Welfare Science**, v. 9, n. 2, p. 143–163, 2006.

DOMINGUES, L. R.; CESAR, J. A.; FASSA, A. G.; DOMINGUES, M. R. Guarda responsável de animais de estimação na área urbana do município de Pelotas, RS, Brasil. **Ciência & Saúde Coletiva**, v. 20, n. 1, p. 185–192, 2015.

DOUGLAS, D. K. **Benefits to pets from the human-animal bond: a study of pet owner behaviors and their relation to attachment**. 2005. Thesis (Doctor of Philosophy) - College of Liberal Arts and Sciences, Wichita State University, 2005.

DYBDALL, K.; STRASSER, R.; KATZ, T. Behavioral differences between owner surrender and stray domestic cats after entering an animal shelter. **Applied Animal Behaviour Science**, v. 104, n. 1-2, p. 85–94, 2007.

ELLIS, S. L. H. Environmental enrichment. Practical strategies for improving feline welfare. **Journal of Feline Medicine & Surgery**, v. 11, n. 11, p. 901–912, 2009.

ELLIS, S. L. H.; RODAN, I.; CARNEY, H. C.; HEATH, S. E.; ROCHLITZ, I.; SHEARBURN, L. D.; SUNDAHL, E.; WESTROPP, J. L. AAFP and ISFM feline environmental needs guidelines. **Journal of Feline Medicine & Surgery**, v. 15, n. 3, p. 219–30, 2013.

GARCIA, R.; CALDERÓN, N. M.; FERREIRA, F. Consolidação de diretrizes internacionais de manejo de populações caninas em áreas urbanas e proposta de indicadores para seu gerenciamento. **Rev Panam Salud Publica**, v. 32, n. 2, p. 140–144, 2012.

GARCIA, R. D. C. Introdução ao Programa de Controle Animal. (M. Ciampi, A. M. L. Vieira, Eds.) In: ANAIS DO SIMPÓSIO INTERNACIONAL PROGRAMA DE TREINAMENTO “CONTROLE DE ZONÓSES E AS INTERAÇÕES HOMEM-ANIMAL”, São Paulo, SP. **Anais...** São Paulo, SP: ARCA Brasil, 2001.

GARCIA, R. D. C. Controle de populações de cães e gatos em área urbana: uma experiência inovadora na Grande São Paulo. **Saúde Coletiva**, v. 2, n. 5, p. 24–28, 2005.

GAZZANO, A.; BIANCHI, L.; CAMPA, S.; MARITI, C. The prevention of undesirable behaviors in cats: Effectiveness of veterinary behaviorists' advice given to kitten owners. **Journal of Veterinary Behavior: Clinical Applications and Research**, v. 10, n. 6, p. 535–542, nov. 2015.

GAZZANO, A.; MARITI, C.; ALVARES, S.; COZZI, A.; TOGNETTI, R.; SIGHIERI, C. The prevention of undesirable behaviors in dogs: effectiveness of veterinary behaviorists' advice given to puppy owners. **Journal of Veterinary Behavior: Clinical Applications and Research**, v. 3, n. 3, p. 125–133, 2008.

GELLER, K. S. **Quantifying the power of pets: the development of an assessment device to measure attachment between humans and companion animals**. 2005. Thesis (Doctor of Philosophy) - Department of Human Development, Virginia Polytechnic Institute and State University, Blacksburg, 2005.

GENARO, G. Aplicação de conceitos básicos em etologia na clínica médica veterinária felina. **Revista de Educação Continuada em Medicina Veterinária e Zootecnia do CRMV-SP**, v. 11, n. 1, p. 32–37, 2013.

GOURKOW, N.; FRASER, D. The effect of housing and handling practices on the welfare, behaviour, and selection of domestic cats (*Felis sylvestris catus*) by adopters in an animal shelter. **Animal Welfare**, v. 15, n. 15, p. 371–377, 2006.

GUEDES, G. N. F. **Formulação, aplicação e avaliação de programa de educação em saúde em escola de visconde de mauá, distrito de resende, rio de janeiro, rj**. 2011. Dissertação (Mestrado em Ciências) - Faculdade de Medicina Veterinária e Zootecnia, Universidade de São Paulo, São Paulo, 2011.

HAMMERSCHMIDT, J. **Desenvolvimento e aplicação de perícia em bem estar animal**. 2012. Dissertação (Mestrado em Ciências Veterinárias) - Ciências Veterinárias, Universidade Federal do Paraná, Curitiba, 2012.

HAMMERSCHMIDT, J.; MOLENTO, C. F. M. Protocol for expert report on animal welfare in case of companion animal cruelty suspicion. **Braz. J. Vet. Res. Anim. Sci., São Paulo**, v. 51, n. 4, p. 282–296, 2014.

HEATH, S. Understanding Normal Feline Communication: The Foundation for a Fulfilling Cat-Owner Relationship. In: AMERICAN ASSOCIATION OF FELINE PRACTITIONERS 2010 SPRING CONFERENCE, San Diego, CA. **Anais...** San Diego, CA: 2010.

HEIDENBERGER, E. Housing conditions and behavioural problems of indoor cats as assessed by their owners. **Applied Animal Behaviour Science**, v. 52, n. 3-4, p. 345–364, 1997.

HERRON, M. E.; LORD, L. K.; HILL, L. N.; REISNER, I. R. Effects of preadoption counseling for owners on house-training success among dogs acquired from shelters. **Journal of the American Veterinary Medical Association**, v. 231, n. 4, p. 558–562, 2007.

HERRON, M. E.; LORD, L. K.; HUSSEINI, S. E. Effects of preadoption counseling on the prevention of separation anxiety in newly adopted shelter dogs. **Journal of Veterinary Behavior: Clinical Applications and Research**, v. 9, n. 1, p. 13–21, 2014.

HUNTHAUSEN, W.; LANDSBERG, G. M.; ACKERMAN, L. J. (ed.). **Problemas comportamentais do cão e do gato**. 2a Ed. ed.São Paulo, SP: Editora Roca, 2005.

IBGE. **Pesquisa Nacional de Saúde 2013**.Rio de Janeiro, 2015.

IRVINE, L. Animal Problems/People Skills: Emotional and Interactional Strategies in Humane Education. **Society & Animals**, v. 10, n. 1, p. 63–91, 2002.

IRVINE, L. The Problem of Unwanted Pets: A Case Study in How Institutions “Think” about Clients’ Needs. **Social Problems**, v. 50, n. 4, p. 550–566, 2003.

JOHNSON, T. P.; GARRITY, T. F.; STALLONES, L. Psychometric Evaluation of the Lexington Attachment to Pets Scale (LAPS). **Anthrozoos**, v. V, n. 3, p. 160–175, 1992.

JONGMAN, E. C. Adaptation of domestic cats to confinement. **Journal of Veterinary Behavior: Clinical Applications and Research**, v. 2, n. 6, p. 193–196, 2007.

KENDALL, K.; LEY, J. Cat ownership in Australia: Barriers to ownership and behavior. **Journal of Veterinary Behavior: Clinical Applications and Research**, v. 1, n. 1, p. 5–16, 2006.

KIDD, A. H.; KIDD, R. M.; GEORGE, C. C. Successful and Unsuccessful Pet Adoptions. **Psychological Reports**, v. 70, n. 2, p. 547–561, 1992.

KIENZLE, E.; BERGLER, R. Human-Animal Relationship of Owners of Normal and Overweight Cats. In: THE WALTHAM INTERNATIONAL NUTRITIONAL SCIENCES SYMPOSIA, Washington, DC. **Anais...** Washington, DC: The WALTHAM Centre for Pet Nutrition, 2006.

LAGES, S. **Avaliação da população de cães e gatos com proprietário, e do nível de conhecimento sobre a raiva e posse responsável em duas áreas contrastantes da cidade de Jaboticabal, são paulo**. 2009. Dissertação (Mestrado em Medicina Veterinária) - Faculdade de Ciências Agrárias e Veterinárias, Universidade Estadual Paulista, Jaboticabal, 2009.

LANGONI, H.; TRONCARELLI, MARCELLA ZAMPOLI RODRIGUES, E. C.; NUNES, H. R. de C.; HARUMI, V.; HENRIQUES, M. V.; DA SILVA, K. M.; SHIMONO, J. Y. Conhecimento da população de Botucatu-SP sobre guarda responsável de cães e gatos. **Veterinária e Zootecnia**, v. 18, n. 2, p. 297–305, 2011.

LESNAU, G. G. **Correlação dos parâmetros endócrinos e comportamentais em cadelas abandonadas em programa de ressocialização**. 2014. Tese (Doutorado em Ciências) - Faculdade de Medicina Veterinária e Zootecnia, Universidade de São Paulo, São Paulo, 2014.

LIMA, A. F. M.; LUNA, S. P. L. Algumas causas e consequências da superpopulação canina e felina: acaso ou descaso? **Revista de Educação Continuada em Medicina Veterinária e Zootecnia do CRMV-SP**, v. 10, n. 1, p. 32–38, 2012.

MARSTON, L. C.; BENNETT, P. C. Reforging the bond—towards successful canine adoption. **Applied Animal Behaviour Science**, v. 83, n. 3, p. 227–245, 2003.

MENGOLI, M.; MARITI, C.; COZZI, A.; CESTAROLLO, E.; LAFONT-LECUELLE, C.; PAGEAT, P.; GAZZANO, A. Scratching behaviour and its features: a questionnaire-based study in an Italian sample of domestic cats. **Journal of Feline Medicine & Surgery**, v. 15, n. 10, p. 886–892, 2013.

MERTENS, P. A.; COPPOLA, C. L. Outcomes of an Animal Shelter Program for Dogs With Separation Related Behaviors. (K. Shokat, B. Schulman, G. Hart, M. Karin, J. Zhao, R. Rottapel, R. Marais, R. Tsien, M. Park, V. Dixit, Eds.) In: 2012 ACVB/AVSAB VETERINARY BEHAVIOR SYMPOSIUM, San Diego, CA. **Anais...** San Diego, CA: ACVB AVSAB, 2012.

MIRANDA, M. I. L. de A. R. **A importância do vínculo para os donos de cães e gatos nas famílias portuguesas**. 2011. Relatório Final de Estágio (Mestrado Integrado em Medicina Veterinária) - Instituto de Ciências Biomédicas Abel Salazar, Universidade do Porto, 2011.

MOLENTO, C. F. M. Bem-estar animal: qual é a novidade? **Acta Scientiae Veterinariae**, v. 35, n. Supl 2, p. 224–226, 2007.

MONDELLI, F.; PREVIDE, E. P.; VERGA, M.; LEVI, D.; MAGISTRELLI, S.; VALSECCHI, P. The bond that never developed: adoption and relinquishment of dogs in a rescue shelter. **Journal of Applied Animal Welfare Science**, v. 7, n. 4, p. 253–266, 2004.

NATIONAL COUNCIL ON PET POPULATION STUDY & POLICY. **Shelter Statistics Survey**, 2013. Disponível em: <<http://www.sawanetwork.org/national-pet-council.html/statsurvey.html>>. Acesso em: 8 ago. 2015.

NEIDHART, L.; BOYD, R. Companion Animal Adoption Study. **Journal of Applied Animal Welfare Science**, v. 5, n. 3, p. 175–192, jul. 2002.

NEVILLE, P. F. An ethical viewpoint: the role of veterinarians and behaviourists in ensuring good husbandry for cats. **Journal of Feline Medicine & Surgery**, v. 6, n. 1, p. 43–48, 2004.

NEW, J. C.; SALMAN, M. D.; KING, M.; SCARLETT, J. M.; KASS, P. H.; HUTCHISON, J. M. Characteristics of Shelter-Relinquished Animals and Their

Owners Compared With Animals and Their Owners in U.S. Pet-Ownning Households. **Journal of Applied Animal Welfare Science**, v. 3, n. 3, p. 179–201, 2000.

O'BRIAN, M. L. **Effects of a preadoption pamphlet on the success of canine adoption**. 2013. Thesis (Major in Animal Sciences) - Department of Animal Sciences, The Ohio State University, 2013.

PATRONEK, G. J.; GLICKMAN, L. T.; BECK, A. M.; MCCABE, G. P.; ECKER, C. Risk factors for relinquishment of dogs to an animal shelter. **Journal of the American Veterinary Medical Association**, v. 209, n. 3, p. 572–581, 1996.

PAZ, J. E. G. **Fatores relacionados a distúrbios de comportamento em gatos**. 2013. Monografia (Graduação em Medicina Veterinária) - Faculdade de Veterinária, Universidade Federal do Rio Grande do Sul, Porto Alegre, 2013.

RAMÓN, M. E.; SLATER, M. R.; WARD, M. P. Companion animal knowledge, attachment and pet cat care and their associations with household demographics for residents of a rural Texas town. **Preventive Veterinary Medicine**, v. 94, n. 3-4, p. 251–263, 2010.

RAMOS, D.; DA CRUZ, N. O.; ELLIS, S. L. H.; HERNANDEZ, J. A. E.; RECHE-JUNIOR, A. Early stage animal hoarders: Are these owners of large numbers of adequately cared for cats? **Bulletin of Human-Animal Interaction**, v. 1, n. 1, p. 55–69, 2013.

ROCHLITZ, I. Recommendations for the housing of cats in the home, in catteries and animal shelters, in laboratories and in veterinary surgeries. **Journal of Feline Medicine & Surgery**, v. 1, n. 3, p. 181–191, 1999.

ROCHLITZ, I. A review of the housing requirements of domestic cats (*Felis silvestris catus*) kept in the home. **Applied Animal Behaviour Science**, v. 93, n. 1-2, p. 97–109, 2005.

ROCHLITZ, I. Basic requirements for good behavioural health and welfare in cats. In: HORWITZ, D.; MILLS, D. (Ed.). **BSAVA manual of canine and feline behavioural medicine**. Gloucester, UK: British Small Animal Veterinary Association, 2009. p. 35–48.

SALAMANCA, C. a; POLO, L. J.; VARGAS, J. Sobrepopulación canina y felina: tendencias y nuevas. **Revista de Medicina Veterinaria y Zootecnia**, v. 58, n. 1, p. 45–53, 2011.

SALMAN, M. D.; HUTCHISON, J.; RUCH-GALLIE, R.; KOGAN, L.; NEW, J. C.; KASS, P. H.; SCARLETT, J. M. Behavioral Reasons for Relinquishment of Dogs and Cats to 12 Shelters. **Journal of Applied Animal Welfare Science**, v. 3, n. 2, p. 93–106, 2000.

SALMAN, M. D.; NEW, J. G.; SCARLETT, J. M.; KASS, P. H.; RUCH-GALLIE, R.; HETTS, S. Human and animal factors related to relinquishment of dogs and cats in

12 selected animal shelters in the United States. **Journal of Applied Animal Welfare Science**, v. 1, n. 3, p. 207–226, 1998.

SÃO PAULO (city). **Lei municipal nº 13.131, de 18 de maio de 2001**. São Paulo, SP, 18 de mai. Diário Oficial [da] Cidade de São Paulo, 2001. Disponível em: <http://www3.prefeitura.sp.gov.br/cadlem/secretarias/negocios_juridicos/cadlem/integra.asp?alt=19052001L_131310000>.

SÃO PAULO (city). **Decreto municipal nº 49.393 de 10 de abril de 2008**. São Paulo, SP, 10 de abr. Diário Oficial [da] Cidade de São Paulo, 2008a. Disponível em: <http://www3.prefeitura.sp.gov.br/cadlem/secretarias/negocios_juridicos/cadlem/integra.asp?alt=11042008D_493930000>.

SÃO PAULO (state). **Lei estadual nº 12.916, de 16 de abril de 2008**. São Paulo, Brazil, 16 de abr. Diário Oficial [do] Estado de São Paulo, 2008b. Disponível em: <<http://dobuscadireta.imprensaoficial.com.br/default.aspx?DataPublicacao=20080417&Caderno=DOE-I&NumeroPagina=1>>.

SHERMAN, B. L.; SERPELL, J. a. Training veterinary students in animal behavior to preserve the human-animal bond. **Journal of Veterinary Medical Education**, v. 35, n. 4, p. 496–502, 2008.

SHORE, E. R. Returning a recently adopted companion animal: adopters' reasons for and reactions to the failed adoption experience. **Journal of Applied Animal Welfare Science**, v. 8, n. 3, p. 187–198, 2005.

SHORE, E. R.; BURDSAL, C.; DOUGLAS, D. K. Pet owners' views of pet behavior problems and willingness to consult experts for assistance. **Journal of Applied Animal Welfare Science**, v. 11, n. 1, p. 63–73, 2008.

SHORE, E. R.; DOUGLAS, D. K.; RILEY, M. L. What's in it for the companion animal? Pet attachment and college students' behaviors toward pets. **Journal of Applied Animal Welfare Science**, v. 8, n. 1, p. 1–11, 2005.

SLATER, M. R.; DI NARDO, A.; PEDICONI, O.; DALLA VILLA, P.; CANDELORO, L.; ALESSANDRINI, B.; DEL PAPA, S. Cat and dog ownership and management patterns in central Italy. **Preventive Veterinary Medicine**, v. 85, n. 3-4, p. 267–294, 2008.

SOTO, F. R. M.; FERREIRA, F.; PINHEIRO, S. R.; NOGARI, F.; RISSETO, M. R.; DE SOUZA, O.; AMAKU, M. Adoption of shelter dogs in a Brazilian community: assessing the caretaker profile. **Journal of Applied Animal Welfare Science**, v. 8, n. 2, p. 105–116, 2005.

SOUZA, L. C.; MODOLO, J. R.; PADOVANI, C. R.; MENDONÇA, A. O.; LOPES, A. L. S.; SILVA, W. B. Posse responsável de cães o Município de Botucatu-SP: realidades e desafios. **Revista de Educação Continuada em Medicina Veterinária e Zootecnia do CRMV-SP**, v. 5, n. 2, p. 226–232, 2002.

- SOUZA-DANTAS, L.; SOARES, G. M.; D'ALMEIDA, J. M.; PAIXÃO, R. L. Epidemiology of domestic cat behavioral and welfare issues: a survey of Brazilian referral animal hospitals in 2009. **International Journal of Applied Research in Veterinary Medicine**, v. 7, n. 3, p. 130–137, 2009.
- STRICKLER, B. L.; SHULL, E. a. An owner survey of toys, activities, and behavior problems in indoor cats. **Journal of Veterinary Behavior: Clinical Applications and Research**, v. 9, n. 5, p. 207–214, 2014.
- TURNER, D. C. Treating canine and feline behaviour problems and advising clients. **Applied Animal Behaviour Science**, v. 52, n. 3-4, p. 199–204, 1997.
- WEISS, E.; GRAMANN, S. A comparison of attachment levels of adopters of cats: fee-based adoptions versus free adoptions. **Journal of Applied Animal Welfare Science**, v. 12, n. 4, p. 360–370, 2009.
- WENG, H.-Y.; KASS, P. H.; CHOMEL, B. B.; HART, L. a. Educational intervention on dog sterilization and retention in Taiwan. **Preventive Veterinary Medicine**, v. 76, n. 3-4, p. 196–210, 2006a.
- WENG, H.-Y.; KASS, P. H.; HART, L. a; CHOMEL, B. B. Risk factors for unsuccessful dog ownership: an epidemiologic study in Taiwan. **Preventive Veterinary Medicine**, v. 77, n. 1-2, p. 82–95, 2006b.
- WENSLEY, S. P. Animal welfare and the human-animal bond: considerations for veterinary faculty, students, and practitioners. **Journal of Veterinary Medical Education**, v. 35, n. 4, p. 532–539, 2008.
- WHO. **Guidelines for Dog Population Management**, 1990. .
- WILSON, C. C.; BARKER, S. B. Challenges in Designing Human-Animal Interaction Research. **American Behavioral Scientist**, v. 47, n. 1, p. 16–28, 2003.
- ZASLOFF, R. L.; KIDD, A. H. Attachment To Feline Companions. **Psychological Reports**, v. 74, n. 3, p. 747–752, 1994.